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ABSTRACT

As human understanding is largely metaphorical, what metaphor is, how children use it, and how they can be taught to use it more effectively are important educational concerns. A direct or indirect comparison between two apparently unlike things, metaphor consists of a topic, a vehicle of comparison, and ground--or traits--linking the topic and the vehicle. When the metaphor is interpreted, tension created by the comparison is resolved. A metaphor may be either context independent (a part sentence metaphor that is meaningless when interpreted literally) or context dependent (a whole sentence metaphor that may have a literal meaning in another context). Metaphors are evident in children's earliest speech and increase in frequency until the early elementary school years. With adolescence, metaphor usage again increases. Children's success at interpreting a metaphor seems to depend on the developmental cognitive stage controlling their thinking. First basing comparisons on physical similarities, children gradually begin to compare psychological and abstract qualities. Instructional procedures for developing student skill with metaphors include naming and classifying exercises, work with situational ambiguities, use of metonymy, and attention to the affect that a word's function in a sentence has on its meaning. (MM)

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METAPHOR: THE HEART OF READING AND WRITING

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Metaphor: The Heart of Reading and Writing

A hill is a house for an ant, an ant.
A hive is a house for a bee.
A hole is a house for a mole or a mouse
And a house is a house for me!

-- Mary Ann Hoberman

The sea became a wildcat now, and the galleon her prey. She stalked the ship and drove her off her course. She slapped at her, rolling her victim from side to side. She clawed the rudder from its sternpost and threw it into the sea. She cracked the ship's ribs as if they were brittle bones. Then she hissed and spat through the seams.

-- Margarite Henry

These two passages are recognized, I am sure, as instances of metaphor. Many people consider metaphor as something used in poetry and "quality literature," and may not consider it a factor in our everyday language and the language of our students. What I am proposing is that metaphor is a controlling factor in all language and, therefore, a controlling factor in all our thinking.

I call metaphor the heart of reading and writing because it is the organ which forces life into our language and supplies our thinking

processes with the vital plasma of understanding. By the time I am finished I hope you, too, will appreciate that

> Metaphor is not just a matter of language that is mere words...on the contrary, human thought processes are largely metaphorical (Lakoff & Johnson, 1980).

I wish to demonstrate, also, that when we educate our students, we are and should be educating them by metaphor. As Robert Frost (1969) has said about many college graduates, and I believe his words are appropriate for elementary school students as well,

> They don't know when they are being fooled by a metaphor, an analogy, a parable. And metaphor is, of course, what we are talking about, education...is education by metaphor.

What does Frost mean by "being fooled by a metaphor?" He lists some metaphors that are the "whole of our thinking:" the Greek concept that the essence of life is a substance; the idea of some physicists that a thing is an event; the concept of freedom of will that can be lost or gained; and, the idea of evolution. More recently, the idea that we are being fooled by metaphor has been expanded to include more examples: Time is money; Love is a force; and Life is a container (Lakoff & Johnson, 1980).

One of the more important metaphors controlling our thinking has been named the conduit metaphor (Lakoff & Johnson, 1980). Briefly, when using this metaphor, we treat ideas as objects, linguistic expressions as containers, and communication as sending. That is, we consider ideas, concepts, or any information as a thing, an entity. We can place this entity into a statement, and then we can direct the statement to another human. We can expand the statement with additional ideas; we can facilitate or hinder the delivery of the ideas. Our use of this metaphor may not be obvious to all, but its use is hidden within

It's difficult to put my ideas into words.
He turned off the speaker.
The sentence is without meaning.
Try to put more thought into fewer words.

You might be thinking: it is obvious what is meant by those statements. Also, if I am right, aren't these metaphors usually adult created and adult directed? Why, then, worry about it in relation to reading and writing instruction for school age children? In answer to these possible questions, I offer some examples which have been taken from second and third grade textbooks. By the way, all the examples used in this paper are from elementary texts intended for use at grades one through three. All these sentences contain hidden metaphors:

Science can tell us a lot about these mysteries.
In 1969 two men landed on the moon. They brought
new knowledge back to the earth.

In some systems, you cannot see the energy givers.

By examining these statements, you can see that ideas are considered as objects and these objects are given characteristics of human actions. These are perfectly acceptable statements, do not get me wrong. I am using them only to illustrate that metaphors pulse through all our language and thinking, and in fact, they are as necessary for understanding as our heart is for living. They provide the basic way of passing from the well known to the unknown (Petrie, 1979). They are a "means of conveying and acquiring new knowledge and of seeing things in a new way (Ortony, 1980)." But, they are also a means for hiding, for disguising. We need to be conscious of metaphor, and we need to make our students conscious of them because, as Frost has said,

> Unless you are at home in the metaphor, unless you have had your proper poetical education in the metaphor, you are not safe anywhere (Frost, 1969).

My purpose is to provide answers to three questions: (1) What is a metaphor? (2) How do children learn and use metaphor? and (3) How can children be helped to understand and use metaphors? The answers to these questions, I hope, will make our passage through the educational process a little safer.

What is a metaphor?

To answer this question, I will examine both dictionary definitions and theoretical discussions about metaphors -- very briefly -- and then

spend some time discussing what makes a metaphor. I will try to do this without too much technical language; but, without any idea of how a metaphor is made, there is little that we can do effectively about instructing our students in the use and understanding of metaphorical language.

In the Random House Dictionary of the English Language, metaphor is defined as

> The application of a word or phrase to an object or concept which it does not literally denote, in order to suggest comparison with another object or concept.

And, in the Scott Foresman Intermediate Dictionary, metaphor is defined as

> An implied comparison between two different things; a figure of speech in which a word or phrase that ordinarily means one thing is applied to another thing in order to suggest a likeness between the two.

The consistencies in the definitions are that metaphors are comparisons and that they suggest meanings. Also, the meanings metaphors are suggesting are considered as not ordinary.

Scholars who write about metaphors seem to agree with these definitions. I found in professional texts that metaphor is considered in these ways:

> Metaphor involves the pretense that something is the case when it is not (Turbayne, 1980).

> Metaphor is understanding and experiencing one kind of thing in terms of another (Lakoff & Johnson, 1980).

> Metaphor attempts to describe one thing in terms normally denoting another (Cullinan, 1971).

These five definitions may explain what a metaphor may be doing, but they surely do not explain how a metaphor does what it does. To understand "what makes a metaphor" we need to examine their structure.

Metaphors have components: topic, vehicle, and ground (Ortony, 1980). For example, in sentences (1) and (2),

> (1) Brian moves with the speed of a cheetah.
> (2) The traffic snaked through the detour zone.

the metaphors' topics can be identified as the main item of interest -- Brian and the traffic. The vehicle is the item to which the topic is being compared, either directly, as in (1), or indirectly, as in (2). The ground is the relationship implied to tell something about the

topic, that is, the one or more characteristics of the vehicle intended to explain something about the topic. In one case it is speed, in the other it is a sense of winding or curving.

What is it, then, that makes these metaphors "work"? In (1) it is knowing the speed of a cheetah. In (2) it is knowing how a snake moves. These metaphors are made by us only because we as receivers of the message are familiar with the important and relevant characteristics of the vehicle and can relate the particular trait or traits to the topic. Let us examine this idea further

(3) The Mohawks walk along steel beams as easily as you walk to school.

(4) Each step we take moves us slowly through the water, like taking giant steps in a dream.

In (3), we understand the metaphor only if we are familiar with how easily it is for the typical student to walk to school. It is quite possible for us to give this metaphor another interpretation if the creator's intent is thought to be sarcasm, that is, we experience great difficulty in walking to school and, therefore, equate walking on a high beam with a difficult or dangerous situation. In (4) we must have had some experience with "dream-like" feelings. Or, this could be a "reverse" metaphor, that is, it is reversed in that the topic and vehicle are reversed for us from that intended by the metaphor's creator. We realize what a dreamlike state is because we have tried to walk under water.

In both cases, however, we cannot interpret the metaphor without being familiar with the implied characteristics that link walking a

steel beam to walking to school and link walking in water to walking in a dreamlike state. In both instances, the metaphor is made because the interpreter can resolve an apparent anomoly and can resolve the tension caused by the metaphor.

That is another key element in a metaphor -- tension. Tension arises because we or the students realize some inconsistency between what we perceive and the literal message. In hearing or reading statement (3), students are confronted with an inconsistency between what is normally considered as a dangerous action and one normally considered as a safe action. The tension is resolved when they realize the ground characteristics that are being implied to link the topic and vehicle. If the students, as listeners or readers, cannot realize or cannot resolve the tension, the metaphor is not made for them.

In addition, these metaphors occur because they are created by comparisons within the sentences. Apart from the context of the entire passage, these metaphors still stand. However, there are metaphors which are created only because of the relationship of their sentences to the meaning of entire passages.

(5) "Well, Teddy!" She said, "Did you go to the moon and back?"

(6) For the Mohawks this was a good hunting ground.

In (5) the metaphor exists because of the juxtaposition of the question about going to the moon to the action that has preceded it in the story. It could be interpreted literally, that is, with no intent

to suggest another meaning. Teddy could be an astronaut and someone questions him about the results of a space flight. However, in the context of the story in which Teddy has been delayed, the statement was intended metaphorically. In (6) we cannot realize fully the metaphor without knowing the antecedent of the pronoun "this". It could have a literal interpretation if the antecedent is a forest. However, in the original story, the antecedent is:

> Then, in the 1920's many tall buildings were begun in New York City.

Only within the contexts of their total passages can we interpret these statements metaphorically.

The metaphors in (3) and (4) are called part sentence metaphors (Ortony, 1980). A part sentence metaphor is "the unconventional use of a word in such a way so as to make a literal interpretation of the sentence either nonsensical or impossible or false." The metaphors in (5) and (6) are called whole sentence metaphors. A whole sentence metaphor is "a sentence which is a metaphor because of the context, but which would be literal in another. The context forces the metaphor."

Let us look at other examples,

(7) Again and again the clam bucket bites the top of the outside wall, dropping each bite into the truck.

(8) "So, you are the one with the plow that opened up the earth," they said to the farmer.

In (7) we see how the clam bucket, a type of mechanical crane (and a metaphorical name), is given animal characteristics. We interpret the sentence metaphorically even outside the context of the story. On the other hand, we or the students might literally interpret (8) to mean that the farmer had a plow and opened up a hole in the ground. But, within the context of the story, we realize it as a metaphorical reference to the fact that the farmer was plowing in a field when the earth opened and a volcano began erupting.

In summary, metaphor is a direct or indirect comparison between two apparently unlike things. A metaphor consists of three elements: a topic, the thing or idea to which our attention is directed, a vehicle, the thing or idea which is being used as the comparison item in order to reveal something about the topic, and the ground, the one or more traits which are the implied link between the topic and the vehicle. This apparently anomolous comparison causes tension: when the tension is resolved, the metaphor has been interpreted. We have looked at two kinds of metaphors. One, called a part sentence metaphor, is a metaphorical statement that can be interpreted apart from the larger context or passage in which it is encountered. The other, called a whole sentence metaphor, is a metaphorical statement which cannot be interpreted metaphorically outside of its context or story because it may have a literal meaning in another context.

I turn now to an examination of how metaphorical understanding is linked to your students' language and experience and of how they can understand metaphors even though they may not be creating them.

How do children learn and use metaphors?

In presenting ideas about children and metaphors, I make a distinction between the creating of metaphors and the understanding of them. In regard to understanding metaphors, there is strong evidence to support the contention that

> The processes involved in the comprehension of nonliteral speech are part of our language production and comprehension equipment from the start (Rumelhart, 1979).

That is, a child in learning to use and understand metaphor does not first learn literally to interpret language and then learn metaphorically to interpret it. Since metaphor seems to be "natural and widespread in our speech" (Rumelhart, 1979), Children learn to respond to metaphors as they learn to respond to language in general.

As an aside, I wish to indicate briefly that I believe language, whether spoken or written, is learned and interpreted only within a social context. To me, there can be no language without a social context. Oral language

> is a set of socially-contextualized resources of behavior, a 'meaning potential' that is related to the situations of use. Being 'appropriate to the situation' is not some optional extra in language;

> it is an essential element in the ability to mean (Halliday, 1978, p. 34).

Similarly,

> the reading of text is an event occurring at a particular time in a particular environment at a particular moment in the life history of the reader (Rosenblatt, 1978, p. 20).

All language, then, whether spoken or written, is learned and used as a process of communication within social contexts. We must not think only of the immediate situation, that is, of someone sitting alone and reading, when we think of "environment," because that person is communicating within a context which includes the author. The situation or moment about which I am speaking refers to both the context of culture and the subcontext of the immediate environs of the act of speaking, reading or writing. So, metaphors are learned and used in social contexts.

In regard to <u>understanding</u> metaphors, there is an ever growing body of research to support the claim that children may understand metaphors long before they can explain them (Winner & Gardner, 1981). Researchers have two ways to determine whether or not a child has interpreted a metaphor. (Here I am speaking about generally accepted interpretations of metaphors.) One way is to ask the child for a paraphrase of the metaphor's implied meaning. The research using this procedure has not been too successful because it also is testing the child's expressive

language strategies. The child might understand the metaphor, but he or she might not have the linguistic structures to express that understanding. The researchers' second way is to ask the child to respond by selecting a picture representing the metaphor. Using this technique, some researchers have found that children of kindergarten age could show a tacit understanding of a wide range of metaphors.

There also is evidence that the stages of metaphorical understanding may be developmentally linked (Galda, 1981). Three such stages have been identified, and their occurrence seems to be consistent with and supportive or Piagetian developmental stages. The first stage of metaphorical development is evident in young children in the four to five year age range. This stage is characterized by the children making little or no connections between a target and its vehicle. They could not discuss metaphors nor consistently select pictures as responses. The second stage seems to develop around seven or eight years. This is a period when metaphors are sometimes understood. The basis for the understanding seems to be a figural resemblance. That is, the child can interpret a metaphor that is based on a physical property comparison between the topic and vehicle. For example, in statements (1) and (2), the metaphorical grounds are physical properties. On the other hand, metaphors such as those occurring in (3) and (4) are based upon psychological properties. Those familiar with Piagetian theory will recognize a pattern consistent with the preoperational thought stage. The third stage of metaphorical development seems to occur as the child moves into a concrete operations stage of intellectual development and develops formal operations. At this stage of metaphorical development, the child

is able to connect the topic and vehicle through a ground consisting of both physical and psychological characteristics.

The above findings must be held as tentative because of the difficulties in testing children's responses I discussed previously. That is, we cannot be sure we are determining whether or not children understand metaphors. The evidence that seems to be more conclusive, however, is that of a developmental pattern showing how children spontaneously use metaphors. Please keep in mind that an intuitive, spontaneous use of a language pattern is some clue to the child's ability to participate in a communication situation. But, it is not verifiable evidence that the child fully understands the mechanics of interpreting the metaphor. In the literature about learning to read and write, this aspect of understanding, namely the child's ability to explain why he or she knows, is called metacognition. I am not, at this time, going to deal with research on that concept.

The research about young children's spontaneous use of metaphors reveals that children begin to use metaphors almost as soon as they begin to speak (Winner & Gardner, 1981). Early use of metaphors seems to grow from their symbolic play. That is, children engage in a pretense that an object is something else. This renaming in early children's metaphors seems to be based on a physical property of the objects. They do not seem to apply an affective or other psychological aspect to one object from another. Also, the early use of metaphors seems to occur only when there is a physical proximity between the children and the object. For example, they might use anything that rolls as a "play car;" however, they might not refer to something that rolls as a car in

the absence of that object. The rolling object needs to be in their sight or possession, not just in their thoughts.

This spontaneous use of metaphors in oral language seems to peak at ages three to four and continues through age six. Then a curious thing happens. The spontaneous production of metaphors seems to decline through middle childhood and reappears during adolescence. A decline is also seen in children's attempts to use tasks to elicit metaphors until about grade eleven; then, an increase in this language strategy is noted. There is a tentative explanation for this apparent anomoly, that is, a "U" shaped developmental curve showing increased spontaneous use of metaphors then a decrease than an increase. The explanation is that during middle childhood there is an attempt by children to be literal and to adopt the conventional use of language. In fact, ten year olds seem to shy away from unconventional language usage and may protest metaphorical use by others. We do not know whether this inclination on the part of children to conformity is due to formal schooling or whether it is a natural development. Based upon our current knowledge, we can only conjecture.

But, I think a very important finding from the developmentally based research is that while spontaneity in the use and production of metaphorical language declines during the middle school years, the ability to produce and to understand metaphors remains with the children.

One additional point needs to be addressed before we move on to a discussion about strategies for teaching metaphorical understandings. We have already discussed that metaphor is a means for becoming familiar with an unknown through the properties of a known. Yet, there is evidence from current research that unfamiliarity with the vehicle of

the metaphor may not be the sole determining factor as to whether or not a child understands a metaphor (Winner & Gardner, 1981). Children seem to have little difficulty understanding structures (9) and (10) because they contain a relationship of concrete and physical properties between their topics and vehicles. Also, the topics and vehicles are concrete entities.

(9) The ants' nest is a house of apartments.

(10) But the fly has a mouth without any jaws that looks like an upside-down funnel.

However, when the relationship (the ground) between the topic and the vehicle becomes based upon abstract relationships, metaphorical understandings seen to decrease in children. This also applies when the topic and vehicle are abstractions. When the ground is based upon abstract links, the semantic distance is increased between the topic and the vehicle. Abstract links are affective qualities, such as feelings and attitudes, cross-sensory characteristics, such as "tasting " cotton candy upon hearing or seeing the words, and conceptual features, such as the topic and vehicle belonging to the same set or semantic category.

Two things work against elementary age children understanding sentence (11).

(11) The days of travel seemed like one great hot thirst.

(12) Your voice is a musical instrument.

First, the topic and the vehicle are not concrete entities; they are abstractions. Second, there is a vast semantic distance between "days" and "thirst." True, this does set up a great tension. But it is a tension that cannot be resolved by a simple listing of the obvious characteristics of being thirsty. That is, "nest" and "house of apartments" in (9) are both places for living and share commonalities of use and structure. On the other hand, "day" and "thirst" in (11) do not share any but the most abstract of commonalities. In sentence (12), however, both the topic and the vehicle are somewhat more concrete and the semantic distance between them is smaller. Because the linking characteristics contain physical properties, the affective, cross-sensory and conceptual links implied in this metaphor are more easily understood.

In summary, it seems that from the time children begin to manipulate language and develop control over its use, metaphors are evident in their speech. This spontaneous use seems to increase until about early elementary school years at which time a decline is noted in the spontaneous production of metaphorical language patterns. As children enter adolescence, they seem to again utilize metaphorical structures in their speech. However, despite the decline in spontaneous metaphoric productions, children seem to retain the ability to understand metaphors and even to produce them on demand. How successfully they overtly interpret a metaphor seems to depend upon the developmental cognitive stage that controls their thinking. Children start with a dependence upon creating and understanding metaphors based solely upon a physical comparison, and then they develop the ability to interpret and create metaphors based

psychological and abstract qualities. As the semantic distance increases between the topic and the vehicle, metaphorical understanding decreases.

If we are to create effective instructional programs which help students understand and create metaphors, we need to look at what is it about metaphors that may impede or enhance their understanding of them. This leads to an answer for my third question.

How can children be helped to understand and use metaphors?

The instructional procedures I am suggesting are applicable for use with all children in grades kindergarten to eight. Through their use, we can help our students develop an understanding of metaphorical language, enhance their ability to use metaphors, and provide them with some insights so they can gain facility in explaining how a metaphor may work.

One instructional procedure is a technique we have all used, I am sure. But, it may not be thought of as a metaphor readiness activity. The procedure is naming and classifying. For example, have students name the different kinds of houses in their neighborhood and the physical features by which they can be identified. I am not going to spend much time on this activity because I think it is a common one and many examples of it can be devised or can be located in various instructional handbooks.

What I want to stress, though, is that naming and classifying should not be limited to physical characteristics. Try to develop a sense that houses can be classified by other characteristics.

For example, because of architectural design or decoration, some houses give the sense of newness or of olden times. Some houses such as "haunted" houses give rise to cross-sensory characteristics of noises and to conceptual aspects of holidays. To reiterate, children seem to create metaphors and to demonstrate an understanding of them first on the basis of physical properties, but they can be led to understand and to use metaphors based on more abstract aspects such as affective qualities, cross-sensory characteristics, and conceputal aspects.

A second instructional procedure is to develop reading and writing lessons on multiple meanings of words for which the meanings are situational ambiguities. This is the play on words that can drive parents and teachers crazy once their children have discovered how it works. Because many children may not be cognitively ready, this activity might be held off until the end of second or the beginning of third grade. It can be introduced through books such as Amelia Bedelia by Peggy Parish and Would You Put Your Money in a Sand Bank? by Harold Longnian.

You are probably familiar with the situational ambiguities of Amelia Bedelia who "dresses a chicken" and "puts the lights out." Here is one from Would You Put Your Money in a Sand Bank?

> I think that English is sickly.
> Words change their meanings so quickly.
> "Time goes fast," simply means that time's fleeting.
> When you fast, it just means you're not eating.
> And "stuck fast" means you're glued to the spot.
> So if you go fast, you will never be last,

If you fast, you may last, or may not.

A third instructional activity is to use the device known as metonymy. Metonymy is the use of a part for the whole or the use of one particular trait of something for something else.

Here are some metonymical metaphors.

(13) Here is a direction finder that uses a clock. The tree is at 3 o'clock.

(14) Have you ever wondered where your morning toast comes from?

(15) "Jan, will be first base since our regular first base is absent?"

In them, the metaphorical relationship is established by making an object represent a process, or perform some action, or by having a part represent the whole. In (13), the direction finder does not "use" a clock; its construction is based upon the principle of one. And, trees are not found at "hours." In (14), the toast is used to represent the entire process of bread making. In (15), first base is used to represent the action of a particular player. In a way, metonymy is similar to a personification metaphor; however, I consider metonymy to be the "personification," if you will, of abstractions and intangible objects whereas personification, itself, is the direct portrayal of human qualities in animals and concrete objects.

The way to have students become aware of metonymy and to develop an understanding of these metaphors is through direct guided instruction.

First, select a metonymical metaphor and identify for the students what is happening. For example, using the metaphors of (13), (14), and (15), make sure the children realize the denoted objects--direction finder, toast, and first base. Second, ask questions that focus their attention on the anomoly of the statement:

> Can a direction finder use a clock in the same way that we use a clock?
>
> Doesn't our toast come out of a toaster?
>
> Is Jan really expected to lie down and be the first base bag in the game?

Third, discuss what the meaning would be if these statements were taken literally. And finally, using other metonymical metaphors as models, have the students create some of their own. For example, you might use the story, "Dulary," by Morris Weeks, Jr., which begins

> There was a new face at the Philadelphia Zoo on a morning late in May.
>
> It was a nice face, It was wide at the top, with a little hair and a long gray ear at each side. The face narrowed at the bottom to a long trunk. Above the trunk a pair of brown eyes looked out.

Modeling this story, your students can use or create story starters such as

There was a new arm on our team.

My father brought a new set of wheels home today.

My mother's job is helping people put roofs over
their heads.

You can bring attention to metonymical metaphors through poems, and then direct your students' attention to how these constructions appear in expository prose. Notice the similarities between the poem, "What is White." by Mary LeDuc O'Neill, from the book Hailstones and Halibut Bones, and the passage, "What is a City," which appears in a first grade text (Early 1979).

What is white?

White is a dove.
And lily of the valley
And a puddle of milk
Spilled in an alley --
A ship's sail
A kite's tail
A wedding veil
Hailstones and
Halibut bones
And some people's telephones'

What is a city?

What is a city?
It is streets.

It is cars and buses and trucks.

It is buildings.

And a city is people.

Many people are in a city.

In both passages, the subjects -- the color white and a city -- are identified through aspects of their properties. At one time or another many of you probably have had your students complete expressions, such as "Happiness is..." or "Winter is..." The children's own metonymical metaphors can be extended from ones built on physical properties to ones of affective or cross sensory characteristics so the following may result:

A city is the screech of brakes.

White is the feeling of cotton.

A fourth way for instructing your students about metaphors is to work with them so they become aware of the types of information conveyed by the different parts of speech. No, I am not advocating that you teach formal grammar and grammatical terms. I am, however, suggesting that you develop with your students the sense that certain word classes give a different meaning by the manner in which they function in a sentence. For example, the word "white" changes somewhat in meaning as a noun where it is used to name something,

That color is white.

as an adjective where it is used to describe the quality of something,

That is a white shirt.

nd as a verb where it used to convey a process

The girl whitened her sneakers.

In a textual passage about the Grand Canyon, students can encounter

(16) This rocky canyon, a kilometer and a half deep, is the deepest and widest cut ever discovered on the earth.

Here, the word "cut" is metaphorically used as a noun. Later in the chapter, the noun metaphor is reinforced, and then there is a shift to the use of the word as a verb.

(17) The land came up so slowly that the river cut right through it.

Students can be made aware that in one case something is being named and in the other an action is being indicated. Then, when they encounter a passage such as "The Food Cycle" (Van Roekel, 1973), they can be encouraged to create their own variations and extensions of metaphorical sentences.

The Food Cycle

A tree makes its own food. The roots of the tree take up water and minerals from the soil through small root hairs. The soil, water and minerals become sap in the roots. The sap goes up the tree through small pipelines in the stem. The sap goes up through the branches to the leaves.

The students can be encouraged to change the name of something to an action. That is, they can rewrite some sentences changing the "pipeline" metaphor into other parts of speech. This sentence might result as the metaphor shows a process:

The sap is piped up through the branches to the leaves.

And then, using a sentence found further on in the passage, the metaphor can show a quality:

Sunlight and air help the leaves change the piped-in sap into a kind of sugar.

I have suggested just four ways you can work with your students to develop an understanding of metaphor and to create metaphors modeled after some of the language patterns they meet in their school texts. In no way do I wish to imply that these exhaust the variety or the extent

of the instructional practices for learning about metaphors. So that students can understand and use metaphors, I have been suggesting that your attention should be directed to the "how" of metaphorical constructions. For children to understand metaphors, they must be familiar with the content referred to in the metaphorical construction. But that is not sufficient. They need to participate in a variety of activities in which there is social interaction with others who use figurative language. These others--whether they are you or other students in the class--must encourage the children to use the figurative language they hear and read.

I hope that what I have done is bring to your attention the similarity between learning about metaphors and learning about problem solving in general. You and your students must become actively engaged in metaphorical language. You and your students must try a variety of solutions to resolve a metaphorical anomoly. And, you should encourage peer interaction and student to teacher feedback. Use this feedback to guide the learning of your students and even to learn from them something about metaphor. I hope, too, that I have created an enthusiasm in you for learning by metaphor going beyond the usual concern for metaphor that we encounter only in poetry and "literature" and going beyond what Frost refers to as "sunset raving"--ooo's and aah's and nothing more. The enthusiasm I have, and which I hope you have, too, is an enthusiasm that allows for Frost's "education by metaphor" and for the understanding of the anatomical importance of metaphor to being a proficient reader and writer.

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